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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,227

10/06/2005

Adrian W Payne

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

NGUYEN, LEON VIET Q

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

08/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,227	Applicant(s) PAYNE, ADRIAN W	
	Examiner LEON-VIET Q. NGUYEN	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/18/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 9/18/07 was filed after the mailing date of 9/18/07. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-4 rejected under 35 U.S.C. 102(e) as being anticipated by Schmidt et al (US7058381).**

Re claim 1, Schmidt discloses a receiver (fig. 1a) comprising means for demodulating a received signal (element 110 in fig. 1a) to produce an uncorrected

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demodulated signal, a dc offset voltage correcting circuit (fig. 3) having an output for a corrected signal ($X_{res}(k)$ in fig. 3) and a data recovery circuit coupled to the output (element 160 in fig. 1a), the dc offset voltage correcting circuit comprising an input for the uncorrected demodulated signal ($r(k)$ in fig. 3), a bit slicer for detecting received data (slicer 355 in fig. 3), filtering means for regenerating the demodulated signal less noise and dc offset (filter 356 in fig. 3), subtracting means for subtracting the regenerated demodulated signal from the uncorrected demodulated signal to produce the dc offset voltage (adder 354 in fig. 3) and a feedback circuit for feeding back the dc offset voltage to the bit slicer (fig. 3, col. 6 lines 33-40).

Re claim 2, Schmidt discloses a receiver characterized in that the filtering means is a low pass filter (FIR filter 356 in fig. 3, a FIR filter is a type of low-pass filter) having a characteristic substantially the same as the transfer function of at least the complete receiver chain (col. 6 lines 9-17).

Re claim 3, Schmidt discloses a receiver characterized by delay means (feed forward filter 140 in fig. 1a) for delaying the uncorrected demodulated signal by at least the duration of the time delay due to the transmission of a signal through the filtering means (col. 3 lines 22-26).

Re claim 4, Schmidt discloses a receiver characterized in that the feedback circuit (elements 355 and 356 feeding back to element 354 in fig. 3) includes a low pass filter (FIR filter 356 in fig. 3).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US7058381) in view Payne et al (US20020122504).

Re claim 5, Schmidt fails to teach a receiver characterized in that the feedback circuit includes a variable bandwidth filter controlled by the estimated rate of drift.

However Payne teaches a receiver characterized in that the feedback circuit (fig. 7) includes a variable bandwidth filter controlled by the estimated rate of drift (¶0050 and ¶0052).

Therefore taking the combined teachings of Schmidt and Payne as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Payne into the receiver of Schmidt. The motivation to combine Payne and Schmidt would be to ensure that the dc offset estimate is responsive to rapid drift but accurate and noiseless when the drift is low (¶0054).

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US7058381) in view of Bergmans (US5311558).

Re claim 6, Schmidt fails to teach a receiver characterized by another subtracting stage having a first input for the uncorrected demodulated signal and a second input for the dc offset voltage and an output coupled to the bit slicer and to the data recovery circuit.

However Bergmans teaches a subtracting stage (subtractor 44 in fig. 6) having a first input for the uncorrected demodulated signal (the input signal through element 43 to subtractor 44 in fig. 6) and a second input for the dc offset voltage (the input signal through elements 41 and 42 to subtractor 44 in fig. 6) and an output coupled to a bit slicer (slicer 46 in fig. 6) and to a data recovery circuit (decoder 19 in fig. 6).

Therefore taking the combined teachings of Schmidt and Bergmans as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Bergmans into the receiver of Schmidt. The motivation to combine Bergmans and Schmidt would be to cancel echo signals and intersymbol interference (col. 11 lines 5-9).

4. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US7058381) in view of Baker et al (US5724653).

Re claim 7, Schmidt teaches a method of dc offset voltage correction in a demodulated signal, comprising obtaining a dc free estimate of the demodulated signal ($r(k)$ in fig. 3), subtracting (subtractor 354 in fig. 3) the dc free estimate of the

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demodulated signal ($r(k)$ in fig. 3) from a substantially contemporaneous version of the demodulated signal ($c(k)$ in fig. 3) to obtain a dc offset voltage.

Schmidt fails to teach subtracting the dc offset voltage from the demodulated signal. However Baker teaches subtracting the dc offset voltage from the demodulated signal (col. 6 lines 55-57).

Therefore taking the combined teachings of Schmidt and Baker as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the features of Baker into the method of Schmidt. The motivation to combine Baker and Schmidt would be to eliminate any DC offset (col. 5 line 64 oh Baker).

Re claim 8, the modified invention of Schmidt teaches a method characterized by bit slicing a difference signal (slicer 355 in fig. 3 of Schmidt) formed by subtracting the dc offset voltage from the demodulated signal to provide an estimate of the demodulated signal (col. 6 lines 55-57 of Baker) and by filtering the estimate of the demodulated signal (filter 356 in fig. 3 of Schmidt) to obtain a dc free estimate of the demodulated signal.

Re claim 9, the modified invention of Schmidt teaches a method characterized by filtering the dc offset voltage (filter 110 filtering DC offset voltage from element 120 in fig. 3 of Baker, col. 7 lines 3-7 of Baker).

Re claim 10, the modified invention of Schmidt teaches a method characterized by delaying the demodulating signal (feed forward filter 140 in fig. 1a of Schmidt, col. 3 lines 22-27 of Schmidt) prior to subtracting the dc free estimate of the demodulated signal (subtractor 354 in fig. 3 which is part of DFE 150 in fig. 1a of Schmidt).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON-VIET Q. NGUYEN whose telephone number is (571)270-1185. The examiner can normally be reached on monday-friday, alternate friday off, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Leon-Viet Q Nguyen/
Examiner, Art Unit 2611

/Kevin M. Burd/
Primary Examiner, Art Unit 2611
8/11/2008